

REMARKS/ARGUMENTS

Reconsideration and allowance of this application are respectfully requested.

Currently, claims 2-4, 8-9 and 11-12 are pending in this application.

Request for Interview:

Applicant respectfully requests an interview with the Examiner to discuss the present application, and in particular the present response. An interview request form is attached.

Rejections under 35 U.S.C. §103:

Claims 2-4, 8-9 and 11-12 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Shan (U.S. '329) in view of Nishimura (U.S. '257). Applicant respectfully traverses this rejection.

In order to establish a *prima facie* case of obviousness, all of the claim limitations must be taught or suggested by the prior art. The combination of Shan and Nishimura fails to teach or suggest all of the claim limitations. For example, the combination fails to teach or suggest, *inter alia*, “wherein, when a transmission request that a given data item be sent occurs, it is determined whether the queue stores a certain data item that is being already stored before the given data item is to be stored, wherein, when the certain data item is being already stored before the given data item is to be stored, no activation request is then outputted, wherein, when no certain data item is being already stored before the given data item is to be stored, an activation request is then outputted, and

wherein, within the data retrieving within the processing of the second task, all data items that can be retrieved from the queue is retrieved from the queue,” as required by independent claim 2. Similar comments apply to independent claims 8 and 12.

The combination of Shan and Nishimura also fails to teach or suggest “wherein, when a transmission request occurs, it is determined whether a given activation request for requesting for activating the second task is present in the operating system, wherein, when the given activation request is present in the operating system, no given activation request for requesting for activating the second task is then outputted, wherein, when no given activation request is present in the operating system, the given activation request for requesting for activating the second task is then outputted, and wherein, within the data retrieving within the processing of the second task, all data items that can be retrieved from the queue is retrieved from the queue,” as required by independent claim 3. Similar comments apply to independent claims 9 and 11.

The above claim limitations are supported by, for example, Fig. 3 and pages 18-24 of the present application. In example embodiments of Fig. 3, an activation request for activating TASK B is output by the Real Time Operating System (RTOS) upon the SEND MESSAGE function for data A being invoked from the processing of TASK A based on no certain data item being already stored before (see claim 2) or no activation request being present in the RTOS (see claim 3). In contrast, no activation request for activating TASK B is output by the RTOS upon the SEND MESSAGE function for data B being invoked from the processing of TASK A based on certain data item being

already stored before (see claim 2) or the given activation request being present in the RTOS. Also, no activation request for activating TASK B is output by the RTOS upon the SEND MESSAGE function for data C being invoked from the processing of TASK A based on certain data item being already stored before (see claim 2) or the given activation request being present in the RTOS. All of the possible data A-C is retrieved by the processing of TASK B. Since the activation/termination of TASK B is performed only once for data A-C, overhead and CPU processing load can be decreased.

Section 6 (pages 3-4) of the Office Action alleges that paragraphs 6, 12 and 14 of Nishimura (assigned to the same assignee as the present application and naming the same inventor as the present application) teaches the above-noted claim limitations of claim 2. Section 8 (pages 4-5) of the Office Action alleges that paragraphs 5, 6, 12 and 14 and Fig. 2 of Nishimura teaches the above-noted claim limitations of claim 3. Applicant respectfully disagrees with these allegations. Paragraphs 5, 6, 12 and 14 of Nishimura are reproduced below.

[0005] In an electronic control unit (ECU) installed on a vehicle, some processes included in its control program should be executed in real time for providing the sufficient responsiveness of control and a driver's safety. Accordingly, the control program is composed of tasks to each of which a priority level is assigned, and a RTOS performs switching among the tasks during execution of the control program so that processes of a higher priority are executed in real time.

[0006] Specifically, when occurrence of an event is detected, an activation request program requests activation of a task which includes a process (event process) corresponding to the event. The RTOS activates the task in response to the request, and the activated task executes the event process. A priority level is assigned to each of the tasks as described above based on

the priority of execution. A process that is strongly required to be executed in real time is included in a higher priority task. When activation of a task, which is not active, is requested, the RTOS activates the task if the priority level of the task is higher than the priority level of an active task.

[0012] Specifically, in response to occurrence of an event, the activation request program requests the RTOS to activate the task which includes the event process corresponding to the event and simultaneously stores identification (ID) information on the event process in a queue (storage area). When the RTOS activates the task, the activated task retrieves the ID of the event process to be executed from the queue and executes the event process corresponding to the retrieved ID.

[0014] According to the above technique, whenever an event occurs, the ID of the corresponding event process should be stored in the queue and retrieved from the queue, that is, a queuing operation should be executed. Further, it should be determined for queuing whether at least one ID is stored in the queue and whether the queue is full. Therefore the CPU load is heavy when the various events occur in quick succession (emphasis added).

Paragraphs [0005]-[0006] of Nishimura relates to assigning priority levels to different tasks of a control program, considering the priority levels during task activation, and executing the tasks based on the priority levels. Paragraph [0012] of Nishimura relates to an activation request program requesting a RTOS to activate a task upon the occurrence of an event and an activated task executing an event process corresponding to a retrieved ID. Paragraph [0014] relates to checking whether an ID of a corresponding event is present in a queue.

None of the paragraphs 5, 6, 12 and 14 of Nishimura teaches or suggests: not outputting an activation request when a certain data item is already stored (claim 2) or a given activation request is present (claim 3); outputting an activation request when no certain data item is already stored (claim 2) or no given activation request is present

(claim 3); and retrieving all data items that can be retrieved from a queue during processing of a second task. Through these limitations, the inventions of claims 2 and 3 provide an advantage of lightening the processing load on a processing unit. See, e.g., page 7, lines 12-14 and page 20, lines 10-16 of the specification. In marked contrast, the technique described in the background (including paragraphs 5, 6 12 and 14) of Nishimura may provide the disadvantage of a heavy CPU load. See paragraph [0014] of Nishimura stating "According to the above technique....Therefore the CPU is heavy when the various events occur is quick succession."

Applicant thus respectfully requests that the rejection under 35 U.S.C. §103 over Shan in view of Nishimura be withdrawn.

Conclusion:

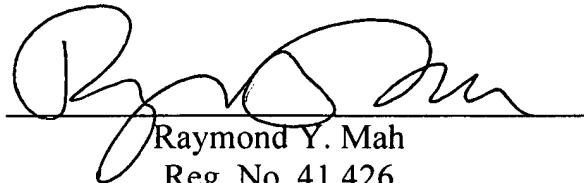
Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

NISHIMURA et al
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Respectfully submitted,

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